DOCUMENT RESUME

ED 194 592 TM 800 722

AUTHOR Bettencourt, Edward M.; And Others
TITLE Effects of Training Teachers in Enthusiasm on Student Achievement and Attitudes.
PUB DATE Apr 80
NOTE 14p.: Paper presented at the Annual Meeting of the American Research Asscciation (64th, Boston, MA, April 7-11, 1980).

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Academic Achievement; *Elementary School Teachers; Intermediate Grades; *Personality Traits; *Student Attitudes; *Teacher Effectiveness; Teaching Styles
IDENTIFIERS *Enthusiasm

ABSTRACT

A study was conducted to determine if training to increase teachers' observable level of enthusiasm had a subsequent effect on student achievement and attitudes toward the teacher and curriculum. Seventeen first-year elementary teachers were randomly assigned to either an enthusiasm training treatment or a no training treatment. Following the training phase, all teachers taught a two week controlled unit in mathematics to their classes. Results indicate that trained teachers increased significantly on eight indicators of enthusiasm compared with untrained teachers. However, students of trained and untrained teachers did not differ either on the achievement post-test or on the attitude scales. Analysis of the controlled instructional unit suggests an explanation for the similarity in posttest achievement of the experimental and control classes. The effect of teacher enthusiasm may have been minimized because students were enthusiastic about unit content and materials. Also, the instruction period was too short, and the achievement posttest too distal for teacher enthusiasm to affect it. Further research is suggested to determine the trainability of teacher enthusiasm and its empirical effects on student attitudes and achievement. (Author/GK)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

ED194592

EFFECTS OF TRAINING TEACHERS IN ENTHUSIASM ON STUDENT ACHIEVEMENT AND ATTITUDES[1]

Edward M. Bettencourt

Hillsboro School District

Meredith Damien Gall

Ray E. Hull

University of Oregon

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

Bettencourt

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

TM800722

[1] Paper delivered at the annual meeting of the American Educational Research Association, Boston, April 1980. The paper reports the major findings of the senior author's doctoral dissertation, Effects of Training Teachers in Enthusiasm on Student Achievement and Attitudes (University of Oregon, 1979). Our appreciation is extended to Dr. Charles Fisher for permission to use materials developed for the Beginning Teacher Evaluation Study.

Research evidence and popular opinion both support the importance of teacher enthusiasm in classroom instruction. For example, Hamacheck (1975) stated, "You and I both know from personal experience that a teacher's enthusiasm or lack of it, can have a lot to do with making or breaking a class" (page 303). And with respect to the research evidence, Rosenshine and Furst (1971) concluded, "Significant results relating enthusiasm to student achievement on at least one criterion measure was obtained in all five studies in which the variable was studied (r_s= .36 to .62), and all nonsignificant results were in a positive direction (r_s= .10 to .30)..." (page 46).

In another review of the research literature on teacher enthusiasm, Rosenshine (1970) raised the question, "Can teachers who characteristically teach without animation, whose pupils achieve low comprehension scores, be trained to increase the comprehension of pupils by teaching with more animation?"(page 502). Mary Collins (1978) endeavored to answer one part of this question by developing and testing a training intervention to increase the overt level of enthusiasm of preservice elementary teachers. Upon completion of training, the teachers demonstrated a significant improvement in use of vocal delivery, eyes, gestures, body movement, facial expression, word selection, acceptance of ideas and feelings, and overall energy level. These behaviors had been used as indicators of teacher enthusiasm in the research reviewed by Rosenshine and Furst.

Collins' findings indicate that teachers can be trained to display increased levels of enthusiasm while engaged in classroom instruction. However, her study did not address the other concern implied by Rosenshine's question, namely, whether training teachers to be more enthusiastic improves the "comprehension" of their pupils. The present study was designed to shed light on this problem.

METHOD

Subjects

The sample consisted of 17 University of Oregon resident teachers and their classes in grades 4, 5, and 6, or combinations thereof. University of Oregon resident teachers are teacher interns working full time in public schools and attending university classes to complete requirements for a Master's Degree in Education. All of them had completed student teaching and had received a basic teaching certificate.

The teachers were randomly assigned to the experimental group (N=8) and the control group (N-9). Because more than one grade level was involved, a stratified random assignment procedure was used to insure the same distribution of grade levels in both experimental and control groups. Two teachers in each treatment group had done substitute teaching prior to entering the resident teacher program. Also, one other teacher in each treatment group had held a previous full-time teaching position. All of the other resident teachers in the sample were first year teachers,

having no prior classroom experience other than student teaching.

Students in the sample came from predominantly middle class suburban neighborhoods. Fourteen of the 17 classrooms (7 experimental and 7 control) were in the Eugene-Springfield area. The other three classes were in rural schools approximately 50 miles from the Eugene-Springfield area.

Design

The experiment involved a pretest-posttest control group design, and was conducted during Fall 1978. All teachers were videotaped teaching a lesson in their regular classrooms prior to enthusiasm training. Experimental group teachers then were trained in enthusiasm using Collins' procedures. Control group teachers received no training.

Following the training period, teachers in both groups taught the same instructional unit to their regular classes over a period of eight days. Students completed a pretest and posttest on the unit content. At the time of the posttest, students also were administered three scales to assess their attitudes toward the teacher and toward the unit content. A videotape of each teacher's classroom performance was made while the instructional unit was in progress. These videotapes were used to assess teachers' post-training level of performance.

Teachers in the control group received the enthusiasm training program after all of the experimental data had been collected.

Enthusiasm Training

Efforts were made to have the enthusiasm training treatment parallel in all major respects the intervention developed by Mary Collins (1978). The training involved a four-phase model consisting of group instruction, peer teaching, microteaching, and a final session.

During the group instruction phase, the senior author presented a summary of the research on teacher enthusiasm and introduced the eight indicators of enthusiasm developed by Collins: vocal delivery, eyes, gestures, body movements, facial expression, word selection, acceptance of ideas and feelings, and overall energy level. Table 1 presents observable features of each indicator and their arrangement into rating scales.

During the peer teaching phase each resident teacher was videotaped teaching a ten minute lesson to a group of peers. This lesson then was discussed by the group using the eight indicators of enthusiasm in Table 1 to rate the presenter's overt level of enthusiasm.

For phase three the senior author met with each resident teacher at his or her school site. A preconference was held to review and encourage the use of the enthusiasm indicators discussed in phases one and two. Then the resident teacher taught a lesson, which was videotaped, to a small group of students. This was followed by a postconference during which the videotape was viewed and critiqued for overt level of enthusiasm.

TABLE 1

RATING SCALE FOR THE EIGHT INDICATORS OF ENTHUSIASM

	1 Low 2	3 Medium 4	5 High
1. Vocal Delivery	Monotone voice, minimum vocal inflection, little variations in speech, drones on and on and on, poor articulation.	Pleasant variations of pitch, volume and speed, good articulation.	Great and sudden changes from rapid excited speech to a whisper. Varied lilting, uplifting intonation. Many changes in tone, pitch.
2. Eyes	Looked dull or bored. Seldom opened eyes wide or raised eyebrows.	Appeared interested. Some changes, no lighting up, shining, opening wide.	Characterized as dancing, snapping, shining, lighting up frequently opening wide, eyebrows raised.
3. Gestures	Seldom moved arms out or outstretched toward person or object. Never used sweeping movements, kept arms at side or folded across body, appeared rigid.	Often pointed with hand, using total arm. Occasionally used sweeping motion using body, head, arms, hands and face. Steady pace of gesturing is maintained.	Quick and demonstrative movements of body, head, arms, hands, and face, i.e., sweeping motions, clapping hands, head nodding rapidly.
4. Body Movements	Seldom moved from one spot or movement mainly from a sitting position to a standing position.	Moved freely, slowly, and steadily.	Large body movements, swung around, walked rapidly, changed pace, unpredictable, energetic.

TABLE 1--Continued

	1 Low	2	3 Medium	4	5 High
5. Facial Expression	Appeared deadpan, doesn't denote feeling or frowned most of the time. Little smiling or a one-second lips upturned. Lips closed.		Agreeable, smiled frequently and longer plus at a regular rate. Looked pleased, happy, sad when obviously called for.		Appeared vibrant, demonstrative, showed surprise, awe, sadness, joy, thoughtfulness, excitement. Total smile--mouth opened wide, quick and sudden changes in expression.
6. Word Selection	Mostly nouns, few descriptors/ adjectives.		Some descriptors/ adjectives or repetition of the same ones.		High descriptive, many adjectives, great variety.
7. Acceptance of Ideas and Feelings	Little indication of acceptance or encouragement, may ignore student's feelings and ideas.		Accepts ideas and feelings, praises or clarifies, some variations in response but frequently repeats same ones.		Quick and ready to accept praise, encourage or clarify, many variations in response. Vigorous nodding of head when agreeing.
8. Over-all Energy Level	Lethargic, appeared inactive, dull or sluggish.		Some variations from high to low in appearing energetic, demonstrative but mostly an even level is maintained.		Exuberant. Maintained high degree of energy and vitality, highly demonstrative, great and sudden changes in voice, tone, pitch; eye, head arm and body movements.

Next the resident teacher taught the same lesson to a different small group of students. This lesson was videotaped and critiqued by the researcher and the resident teacher during a second postconference, and final recommendations were made for further modification of enthusiasm behavior.

Following completion of phase three, the teachers participated in a session in which they viewed selected videotapes of microteaching sessions and discussed implementation of their training in the classroom.

Instructional Unit

The controlled instructional unit in this study was the Experimental Teaching Unit for Fifth Grade Mathematics developed for use in the California Beginning Teacher Evaluation Study (Fisher, et. al., 1978), which was a large-scale investigation of factors involved in effective teaching. The unit introduces basic concepts of probability and graphing to intermediate age students. The teacher presents the concepts through class discussion and presentation of experiments and activities; students practice the concepts using worksheets and other materials.

Measures

Enthusiasm ratings. A videotape of each teacher's classroom performance was made prior to and following the period of enthusiasm training. The videotapes were approximately twenty minutes in length. Two raters scored the videotapes on the eight indicators of enthusiasm using Collins' rating scales (see Table 1). Once an inter-rater reliability of .85 was established, each of the trained raters observed and rated all 34 tapes independently. They were given no information about the experimental/control or pre/post classifications of the videotapes. The inter-rater reliability for the over-all enthusiasm rating was .84. Reliabilities for ratings of the eight indicators ranged from .44 to .88, with a median reliability of .63.

Achievement test. Student mastery of the content of the controlled instructional unit was measured by a 48 item test, which was developed and validated by the staff of the Beginning Teacher Evaluation Study. The same form of the test was administered before and after the controlled instructional unit. The internal consistency of the test, using the Kuder-Richardson formula 20, was .80.

Attitude scales. Attitudes toward the teacher and the content of the unit were measured through the use of an attitude survey developed by the researcher and administered by the teachers immediately following the completion of the unit posttest.

The attitude survey was divided into three scales. Scales one (TEACH) and two (UNIT) consisted of five items each to assess students' attitudes toward the teacher and toward content of the controlled instructional unit. Each item was a statement about the teacher or unit for which the students were asked to indicate their level of agreement by checking one

of the following: Strongly agree, Probably agree, Probably disagree, Strongly disagree. Each item was scored so that a positive attitude was represented by a high score (using a scale of 1 to 4). Cronbach's alpha coefficient, an index of internal consistency, was .60 for the TEACH scale and .56 for the UNIT scale.

The third scale was a semantic differential (SD) measure of students' perceptions of their teachers. A high score on the five 7-point bipolar adjective pairs indicated that students perceived their teachers as interesting, kind, active, relaxed, and exciting. The alpha coefficient for the SD scale was .69.

RESULTS

Descriptive statistics for the experimental (trained) and control (untrained) teachers on the enthusiasm measures, before and after the training period, are reported in Table 2. Trained teachers increased significantly ($p < .005$) in overall enthusiasm from pre ($\bar{X} = 1.89$) to post ($\bar{X} = 2.65$) observation. The increase from pre ($\bar{X} = 2.00$) to post ($\bar{X} = 2.10$) observation for control group teachers was not statistically significant. Analysis of covariance on post overall enthusiasm scores showed a significant ($p < .005$) difference favoring the trained teachers. The trained teachers also made substantial gains on each of the eight indicators of enthusiasm, whereas the untrained teachers showed losses on four of the indicators and only slight gains on the others. These results indicate that the training intervention had the intended effect on teachers.

Table 3 presents students' achievement on the pretest and posttest covering the content of the controlled instructional unit. Classes of both the experimental and the control teachers made substantial achievement gains from pretest to posttest. The difference in gain between the two groups favors the experimental teachers' classes, but it is of negligible magnitude.

Analysis of covariance on posttest scores of the two groups, using the pretest scores as the covariate, indicates that the difference in achievement between experimental and control group classes is nonsignificant ($F=1.59$). It appears that students enrolled in classes taught by teachers who have received enthusiasm training do not attain higher achievement on a controlled instructional unit than students in classes taught by teachers who have not received enthusiasm training.

The mean response of the teachers' classes to the attitude scales is shown in Table 4. The experimental teachers' classes, relative to the control teachers' classes, expressed a more positive attitude toward their teacher on two of the scales (TEACH and SD), and also a more positive attitude toward the controlled instructional unit. One of the differences (TEACH scale) is statistically significant. Although the differences consistently favor the experimental teachers' classes, they are quite small.

Table 2

Overall Enthusiasm Scores and Subscores for Experimental and Control Group Teachers

Indicator	Experimental Group		Control Group	
	Pre $\bar{X}$ (SD)	Post $\bar{X}$ (SD)	Pre $\bar{X}$ (SD)	Post $\bar{X}$ (SD)
1. Vocal Delivery	2.43 (.44)	2.80 (.32)	2.53 (.43)	2.47 (.43)
2. Eyes	1.92 (.28)	2.44 (.42)	2.14 (.49)	1.98 (.58)
3. Gestures	1.60 (.17	2.61 (.59)	1.62 (.61)	2.03 (.59)
4. Movements	1.42 (.53)	2.74 (.58)	1.58 (.36)	1.99 (.78)
5. Facial Expression	1.51 (.43)	2.13 (.53)	1.61 (.39)	1.69 (.42)
6. Word Selection	2.21 (.37)	2.78 (.28)	2.28 (.47)	2.38 (.55)
7. Acceptance of Ideas & Feelings	2.19 (.43)	2.72 (.30)	2.43 (.53)	2.27 (.59)
8. Overall Energy	1.75 (.37)	2.61 (.51)	2.04 (.42)	1.93 (.48)
Overall Enthusiasm Score	1.89 (.30)	2.65 (.37)	2.00 (.34)	2.10 (.42)

Table 3

Comparison of Mean Test Scores of Experimental and Control Group Classrooms

	Pretest X (SD)	Posttest X (SD)	Mean Gain
Experimental Group (N = 8 classes)	22.88 (5.57)	28.83 (5.69)	5.95
Control Group (N = 9 classes)	23.73 (3.12)	29.59 (3.76)	5.86

Table 4

Comparison of Experimental and Control Classes on Three Attitude Scales

Attitude Scale	Experimental Classes (N=8)		Control Classes (N=9)		t
	$\bar{X}$	S. D.	$\bar{X}$	S. D.	
TEACH	3.48	.18	3.32	.18	2.00*
SD	5.76	.40	5.41	.51	1.59
UNIT	3.10	.31	3.01	.30	.64

* $p < .05$

Discussion

The present study replicates Collins' finding that a brief training process is sufficient to bring about an increase in teachers' overt level of enthusiasm. Although Collins' training effects cannot be compared with the present results because she used a different procedure for rating enthusiasm, the magnitude of gain in both studies is substantial and statistically stable. This finding comes as no surprise because the behavioral components of enthusiasm were clearly defined for the teachers, and because methods that have been employed effectively in training other teaching skills (e.g., microteaching) were used here.

It seems reasonable to expect that if teachers become more overtly enthusiastic, students gradually would perceive the change. In turn, this perception would lead them to view the teacher more positively, as well as the instructional content about which the teacher waxes enthusiastic. The data for the three attitude scales are compatible with this predicted sequence of events. Classes of the trained teachers expressed a more positive attitude toward the teacher and toward the instructional unit than did classes of the untrained teachers. However, the differences are slight, and conceivably are an artifact of pre-existing differences between the experimental and control groups. Further research involving more sensitive measures of students' perceptions and pretraining assessment of these perceptions is needed. The research effort appears justified in view of most teachers' concern that students should have a positive attitude about their classroom instruction.

Previous research studies consistently have found a relationship between teacher enthusiasm and student achievement, but no such relationship was found in the present study. Students of trained and untrained teachers learned the instructional unit equally well, as evidenced by their gains on an achievement test administered before and after training.

This negative result suggests that teacher enthusiasm does not directly affect student achievement. If this is true, the positive relationships found in previous research (most of it correlational) may be dismissed as the result of another instructional characteristic which covaries with teacher enthusiasm. However, several features of the experimental design used here suggest other explanations of the negative result concerning the relationship between teacher enthusiasm and student achievement.

One explanation is that the eight low-inference indicators of enthusiasm used in the training phase of the experiment do not accurately operationalize this variable. The <u>appearance</u> of enthusiasm may not be sufficient to increase student achievement. Dictionary definitions of enthusiasm state that an important aspect of enthusiasm is the internal motivation or inspiration a person feels. Perhaps internal inspiration on the part of the teacher about the subject matter of instruction and the act of teaching is the operant factor in enhancing student achievement.

Analysis of the controlled instructional unit suggests another explanation

for the similarity in posttest achievement of the experimental and control classes. Teachers in both treatment groups commented that the unit was highly motivating to students because provisions were made for experimentation and manipulation of materials. The effects of teacher enthusiasm may have been minimized by the fact that students were enthusiastic about the unit content and materials. Teacher enthusiasm may have an effect only in situations where the teacher is the sole source of instruction or where dull, unmotivating materials are used.

Other explanations for the lack of a student achievement effect is that the period of instruction was too short or that the achievement posttest is too distal for teacher enthusiasm to affect it. While the experiment was in progress, we noted that students appeared to become more attentive whenever their teachers become overtly enthusiastic. A dissertation study is currently in progress to determine whether teacher enthusiasm affects students' at task behavior, which is a much more proximal outcome of instruction than is achievement on an end-of-unit posttest.

Gage (1979) has recently suggested that enthusiasm is one of the few teaching behaviors that may be effective across all grade levels, subject matters, and student types. For this reason further research is needed to determine the trainability of teacher enthusiasm and its empirical effects on student attitudes and achievement. The findings of the present study suggest several directions which such research might take.

References

Collins, M. L. Effects of enthusiasm training on preservice elementary teachers. Journal of Teacher Education, 1978, 29, 53-57.

Fisher, C. W., Filby, N. N., Marliave, R., Cahen, L. S., Dishaw, M. M., Moore, J. E., and Berliner, D. C. Teaching behaviors, academic learning time, and student achievement: Final report of Phase III-B, Beginning Teacher Evaluation Study. San Francisco: Far West Laboratory for Education Research and Development, 1978 (Technical Report V-I).

Hamachek, D. E. Behavior Dynamics in Teaching, Learning, and Growth Boston: Allyn and Bacon, 1975.

Rosenshine, B. Enthusiastic teaching: A research review. School Review, 1970, 499-514.

Rosenshine, B. and Furst, N. F. Research on teacher performance criteria. In B. O. Smith (Ed.), Research in Teacher Education: A Symposium. Englewood Cliffs, N. J.: Prestice-Hall, 1971.

Gage, N.L. The generality of dimensions of teaching. In P.L. Peterson and H.J. Walberg (Eds.) Research on Teaching: Concepts, Findings, and Implications. Berkeley, CA: McCutchan, 1979.